1965

Space law : state responsibility for spacecraft damages and for the return of personnel and equipment.

Buchmann, Carl E.

The Judge Advocate General's School, U.S. Army

SPACE LAW: STATE RESPONSIBILITY FOR SPACECRAFT DAMAGES AND FOR THE RETURN OF PERSONNEL AND EQUIPMENT

CARL E. BUCHMANN

SPACE LAW: STATE RESPONSIBILITY FOR SPACECRAFT DAMAGES AND FOR THE RETURN OF PERSONNEL AND EQUIPMENT

A Thesis

Presented to

The Judge Advocate General's School,
U. S. Army

by

Major Carl E. Buchmann, USMC

1965

SPACE LAW: STATE RESPONSIBILITY FOR SPACECRAFT DAMAGES AND FOR THE RETURN OF PERSONNEL AND EQUIPMENT

A Thesis

Presented to

The Judge Advocate General's School,
U. S. Army

by

Major Carl E. Buchmann, USMC

The opinions and conclusions expressed herein are those of the individual student author and do not necessarily represent the views of either The Judge Advocate General's School or any other governmental agency. References to this study should include the foregoing statement.

1965

SCOPE

A critical analysis of the requirements for an international regime of space law concerning itself specifically with two areas of space exploration most urgently requiring agreement: that of liability for damages caused by space vehicles, or parts thereof, landing in countries other than that of the launching state; and appropriate international rules regarding the recovery and return to the launching state of space vehicles and personnel.

This analysis includes a development of the sources of international law and the uses to which such sources may be applied to the two areas mentioned above. It also includes an examination of air and sea law as a valuable analogy for the development of the law of outer space.

TABLE OF CONTENTS

CHAPTER I

INTRODUCTION

Along with the space age have come the space problems -- where is space? who controls it? what is the law out there? do we already have a set of rules governing outer space? and a myriad of other questions, some with answers, some without answers, some answered by more questions. This paper will attempt to reveal the accomplishments that have been made so far in defining space, our progress in setting forth some rules of the road, and several proposed solutions to some pressing problems we now face in the field of space research.

In a recent speech given by Colonel John Glenn,[1] USMC (ret.), he reportedly voiced his dislike for the term "space race," which indicated to him that the Americans were engaged in some kind of a gigantic drag race with the Russians. In a sense, Colonel Glenn's opinion notwithstanding, the element of a drag race is with us in our never ending search for answers to what is in space. The big difference being -- when you are in a

---

1. The Daily Progress (Charlottesville, Va.), Dec. 19, 1964, p. 4, col. 7.

drag race of the ordinary sort, the rules of the race are clearly defined before the race begins. Unfortunately, our race and our rules are progressing in juxtaposition to each other, and at times, at least, it appears that the relative standings of the participants are much more discernable than are the rules under which the race is being conducted.

To draw an analogy between a game and the serious business of space exploration and the laws governing the same is not an attempt to minimize the deadly consequences which may result from an oversimplification of the need for international agreements relating to space research. We are dealing with a subject matter upon which may easily hinge the future of generations, or the lack of any future at all. As far back as 1902, attempts were being made to define space, and the rights thereto,[2] long before the average man could envision what every modern day child accepts as normal, the orbiting of space vehicles around the earth with successful regularity.

It will not be within the purpose of this paper to discuss all or even many of the problems which have arisen as the age of space unfolds; but, rather, to limit

---

2. Institute of International Law, Brussels, 1902.

it to a discussion of two facets of our present participation in space exploration which need more definitive agreement; the development of law in other fields which may assist in reaching such agreement; and what progress has been made up to the present time. The first is a need for rules or laws governing liability for damages caused by space vehicles and devices, and, second, a need for agreement among states concerning the rescue of astronauts and space ships in the event of accident or emergency landing in territory not under the control of the launching state -- at first blush, two simple enough areas to discuss. However, an understanding of the background attendant to such problems, and what has led up to the realization for these needs, will necessarily be discussed before these two subjects can be explored.

The exploration of outer space will continue to captivate the minds and imagination of men for many years. Progress which will be meaningful and beneficial to all mankind can be realized if a cordon of international cooperation can be maintained. The threshold of a cooperative climate in space activity has finally been transcended; however, the progression must continue if we are to attain the high goals to which this country has always aspired. Have no doubt, this will not be a

simple task in an age where we are demanding tomorrow what was unheard of yesterday and where the passage between the two is filled with so many unknowns. The late President John F. Kennedy once said, ". . . For we meet in an hour of hope and fear; in an age of both knowledge and ignorance. The greater our knowledge increases, the greater our ignorance unfolds."[3] Incredible headway has been made by this country and others since Colonel Glenn completed his flight into space in February 1962. What seemed like impossible predictions concerning space exploration a short time ago have become realities, leading to the world space of today being the space of "infinite possibilities."[4]

The celerity with which science is forging ahead in space technology requires a need for negotiating specific areas of agreement in this field among participating states. The United States, as of now, is participating with more than forty countries on cooperative adventures in the space field. But it has been suggested that some

---

3. N.Y. Times, Sept. 17, 1962, p. 16, col. 4 (city ed.).

4. Nekolojevic, World Community and World Space, 32/33 Ybk., Ass'n of Attenders and Alumni of the Hague Academy of Int'l L. 152 (1962/63).

of these adventures, and some of these areas, may be easier of achievement if the forum of the United Nations were utilized for multilateral agreements.[5] What has been and what is being accomplished to this end will be discussed later.

Whoever said, "As long as we keep talking, we won't be shooting," put down in a very few words what it has taken volumes to convey through the years. And it does not miss the mark by much. I am not saying that agreement on the two problem areas which I am posing here, if not arrived at soon, will result in pieces incapable of being put back together again, but I am saying that they are just two among many where negotiation and cooperation will eventually lead us away from the fear of creating pieces at all. At the annual meeting of the American Bar Association in 1958, Past President Rhyne said in his address on "World Peace Through Law":

> We live at the turning point in the history of civilization. . . . As we listen to the roar of current history it is absolutely clear that mankind -- men and nations and races -- must learn to live together or else see civilization as we know it perish. . . . The atomic and hydrogen bombs, the ICBM's, the Sputniks, the Explorers and Vanguards

---

5. Gardner, Outer Space: The Atmospheric Sciences and U.S. Policy, 47 Dep't State Bull. 1214 (1962); 499.

> have attuned the world to an overwhelming desire for peace.[6]

As far back as 1956, Mr. John Cobb Cooper made the statement:

> Today neither lawyers nor governments are prepared to state the legal flight rules applicable to presently operating rockets and planned satellites. For the second time in the present century science and engineering have far outstripped the law.[7]

Have we progressed much further in ten years, or is the law still "outstripped"? There is little doubt that our direction is good, but our destination remains afar.

---

6. Quoted in Cooper, The Rule of Law in Outer Space, 47 A.B.A.J., 23 (1961).

7. An address made by John Cobb Cooper before the Am. Soc'y of Int'l L., April 26, 1956.

CHAPTER II

INTERNATIONAL LAW - WHERE DOES IT COME FROM?

In discussing outer space and the laws which should apply thereto, we must first take a look at the means by which these laws could be formulated. This necessarily takes us into the realm of international law. International law, or, as it has sometimes been called, the "law of nations," has been defined as that body of rules and limitations which the sovereign states of the civilized world agree to observe in their intercourse with each other.[8] At present there are 120 of these sovereign states, 114 of which the United States recognizes; only a small percentage of them are directly concerned with regulations regarding space and spacecraft law. But it would be safe to assume that many, if not all, who have no direct interest are indirectly concerned because the launching of space vehicles can affect any country. In recent years, the machinery has been set up whereby even the smallest state, with the least indirect concern in these matters, can stay abreast of negotiations and take part in discussions on the subject

---

8. Davis, Elements of International Law 2 (1903).

through the United Nations Committee on the Peaceful Use of Outer Space.[9]

The need for these rules and limitations on an international basis is not totally analogous to the same need or reason as exist for domestic laws. With domestic laws, sanctions imposed by the state are deterents to unlawful acts. Punishment for the violation of law is quite distinctive from the reason or virtue of law itself. In the case of international law, while its sanctions have been inadequate, nevertheless it has been generally respected and applied in long periods of peace. Its basic sanction has been simply and effectively the desire for reciprocity and the fear of retaliation. Although the absence of effective sanctions has never been strongly denied, there is evidence of overwhelming acknowledgment of the existence of international law as an obligation upon the States. One writer said:

> States may defend their conduct in all sorts of other ways, by denying that the rule they are alleged to have broken is a rule of law. . . and by other excuses more or less sincerely believed in as the case may be; but they do not use the explanation which would obviously be the natural one if there were any doubt that international law has a real existence and that they are bound by it.[10]

---

9. This committee was established by U. N. Res. 1472 (XIV) on Dec. 12, 1959. For a discussion of this committee and its accomplishments, see Ch. VI, infra.

10. Brierly, The Outlook for International Law 405 (1944).

A. SOURCES OF INTERNATIONAL LAW

There is some divergence among writers as to the sources of law,[11] but there is also agreement among them.[12] Article 38 of the Statute of the International Court of Justice[13] directs the court, in deciding questions of international law, to apply:

a. international conventions, whether general or particular, establishing rules expressly recognized by the contesting states;

b. international customs, as evidence of a general practice accepted in law;

c. the general principles of law recognized by civilized nations;

d. subject to the provisions of Article 59,[14] judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law . . . .

---

11. See Brierly, The Law of Nations 59-66 (6th ed., 1963); and I Oppenheim International Law 24 (7th ed., Lauterpacht 1948).

12. Cf. case of Lubeck v. Mecklenburg-Schwerin (1874) quoted in part in I Hackworth, Digest of International Law 15 (1940), where the court said: "Unity by no means prevails in the literature as to how international law originates. In general, agreement and customary law are named as the sources of international law."

13. For a complete text of the Statute of the International Court of Justice, see 1946/47 Ybk. of U.N. 843 (1946-7).

14. Art. 59 states that a decision of the court has no binding force except between the parties and in respect of that particular case.

The sources of international law and their possible application to a legal regime for outer space should be examined before a comparison is made between the more established areas of international law and that of the law in outer space.

1. Custom

Customary international law is the end result of a tediously slow process of development by acts, and omissions, committed by states in the same manner over a long period of time. Obviously, this cannot happen overnight, but rather a trial and error approach to procedures and practices found to be the most favorable manner in which to carry out a particular act. This cannot be done in a vacuum, however, because, in order for a particular practice to become custom within the international sphere, most of the civilized nations must also find this particular act to be the best means to accomplish whatever is desired. It can be nurtured, for instance, by a state looking back to approved precedents for justification of a particular mode of procedure which is being criticized by another state.[15] There must be some evidence of habitual practice before it

---

15. Davis, op. cit. supra note 8, at 23.

can be considered customary. In a dispute between the government of Columbia and Peru, the International Court of Justice stated:

> The party that relies on a custom . . . must prove that this custom is established in such a manner that it has become binding on the other party. . . .[16]

Mr. Justice Gray, speaking for the U. S. Supreme Court, in a case concerning the condemning of fishing vessels and their cargoes as prizes of war, stated:

> . . . By ancient usage among civilized nations, beginning centuries ago, and gradually ripening into a rule of international law, coast fishing vessels, . . . have been recognized as exempt. . . . It is therefore worth the while to trace the history of the rule, from the earliest accessible sources, through the increasing recognition of it. . . to what we may now justly consider as its final establishment in our own country and generally throughout the civilized world. . . .[17]

Customary law has been likened to the formation of a footpath.[18] The difficulty, which becomes a problem of fact, is in determining the point at which it can be said that it is a path for many and ceased to be a mere trail for only a few. I believe the best answer

---

16. Asylum Case (1950), I.C.J. Rep. 266.
17. The Paquette Habana, 175 U.S. 677 (1900).
18. I Walker, Pitt Corbett's Cases on Int'l L. 5 (6th ed. 1946).

to this is that "whenever, and as soon as, a line of international conduct frequently adopted by States is considered legally obligatory or legally right, the rule which may be abstracted from such conduct is a rule of customary international law."[19]

Every custom must originate in some single act; however, it could never be established by some extensive claim being made by a single state, e.g., enormous fishing rights of a certain coastal state.[20]

A most descriptive example of how certain practices of states ripen into customary international law is the development of the law of the sea,[21] which has its roots in history, and through customary usage has become the law among nations. Here, the means by which a practice becomes custom has been dealt with for centuries. In 1871, Mr. Justice Story in delivering an opinion concerning a collision at sea between an American ship and a British steamer, stated:

> Undoubtedly, no single nation can change the law of the sea. That law is of universal obligation, and no statute of one

---

19. Macgibbon, Customary International Law and Acquiescence, 33 Brit. Yb. Int'l L. 45 (1957).
20. I Whiteman, Digest of International Law 83 (1963).
21. To be discussed in more detail in Ch. III A infra.

> or two nations can create obligations for the world. Like all the laws of nations, it rests upon the common consent of civilized communities. It is of force, not because it was prescribed by any superior power, but because it has been generally accepted as a rule of conduct. . . .[22]

Do we have customary international law applicable to outer space? Yes and no. There are varying theories on this matter. The reason for my equivocal answer is that generally there is some customary law that has developed within the international sphere which can be applied to our need for outer space law; however, what we do have is not specifically applicable -- a legitimate tailoring may be fraught with numerous pitfalls -- although we may draw from existing rules of international law to answer some questions pertaining to outer space.

There is no reason to assume that once a state launches a citizen into outer space all the customary international rules of conduct which that state, and others, have abided by for decades suddenly cease to exist as to him, or to the state, because of the launch. At the present time, the best means to ascertain rights and obligations in outer space, i.e., treaties, are not

---

22. The Scotia, 81 U.S. 170, 187 (1871).

available, but civilized nations must rely on the manner in which they conducted themselves on earth in order to bring some semblance of order to our ventures in outer space.[23] It has been said that there is no law in outer space. This can be agreed to if a qualification is made that specific laws do not exist. The space age has not been with us long enough to "create," through usage, customary rules of international law regarding outer space. Our experiences have not been great enough to formulate laws as such, but experiences drawn from normal intercourse among nations can surely give guidelines and limits by which the formulation of outer space law can emerge. However, when we speak of space law as such we are not speaking of some of the tools that can be utilized to effect it. Many analogies have been drawn between the formulation of law for outer space and the law of the sea.[24] As mentioned, there is no doubt that some aspects of the law of the sea can be put to excellent

---

23. See Jaffee, Reliance Upon International Custom and General Principles in the Growth of Space Law, Mil. L. Rev.,167-80 (April 63).

24. See Williams, The Law of the Sea: A Parallel for Space Law, Mil. L. Rev., 155-72 (Oct. 63); Ward, Projecting the Law of the Sea into the Law of Outer Space, JAG J., 3-8 (Mar. 1957).

use, but we cannot afford the luxury of allowing space law to develop at the tortoise pace that the law of the sea was allowed.

Cohen stated, in his book Law and Politics in Space:

> While man crossing the oceans could afford the luxury of two or three hundred years to evolve regimes of the high seas . . . and yet produce in consequence only five or six principles -- widely accepted, flexible and reasonable in their enforceability -- no such leisurely pace is available to man exploring space . . . .[25]

However, a case can be stated for the development of at least an embryonic customary international law (by silence?) pertaining to outer space. Russia and the United States have been orbiting men and/or vehicles in outer space for almost eight years. In all that time, although the United States has widely publicized each planned launch into space, neither nation has asked permission of the other, or of anyone. Neither country has objected to such launching, nor has any nation voiced disapproval concerning a possible violation of sovereign air space, in ascent or descent of the space vehicle.[26]

---

25. Cohen, Law and Politics in Space 13 (1964).
26. Munro, United Nations - Hope for a Divided World 163 (1960).

Jaffee concludes from this that outer space has been declared free for the use of all by "custom of nations."[27] I hold some reservations as to the establishment of a customary rule of law in such a short time; however, I do believe that the conclusion reached is, and will continue to be, valid -- but for other reasons.

Although the United Nations will be discussed in a later chapter, it would be worthy of note here to mention that resolutions have been made, and agreed to by many nations, that outer space will be governed by international law.[28] Unfortunately, these resolutions lack definitive language, making the task more difficult and resulting in meeting yourself coming around, so to speak -- but it is a beginning.

Surely the established customary international law concept of a nation's right to self-defense is not to be lost in space. The questions attendant to such a statement are, however, not as easy to answer as the questions are to ask. Admiral Ward, former Judge Advocate General of the Navy, opined[29] that a system of rules

---

27. Jaffee, op. cit. supra note 23, at 172.
28. The various resolutions which have been passed are discussed in Ch. VI, infra.
29. Ward, supra note 24.

could be formulated without interfering with a nation's defense requirements. I suggest this as a subject for negotiation and discussion among nations.

In light of what has been said, it is concluded that there is some international law pertaining to outer space, but as Jaffee states, "The drafting and adoption of a comprehensive code of space law would not seem to be required to secure these rules. . . ."[30] Nevertheless, is this actually enough? Relying on general, accepted principles of customary international law can be very helpful if the members of the international family are fortunate enough to be confronted only with general, accepted differences concerning outer space between them. It seems that civilization can ill afford to wait for a body of customary law to develop on an incident-by-incident basis, while, all the time, science is taking not a slow, methodical growing pace, but is advancing at breakneck speed.

Numerous questions arise,[31] and will continue to do so, and the body of customary international law

---

30. Jaffee, supra note 23, at 177.

31. See Galloway, Preface to Space Law - A Symposium, Prepared for the Special Committee on Space and Astronautics, U. S. Senate, 85th Cong., 2d Sess., Dec. 21, 1958, p. VII [hereinafter cited as 1958 Symposium].

will not suffice to adequately answer these questions. Also, the risks involved in relying on such customs in applying them to an entirely foreign area can be great.[32]

2. International Conventions - Treaties

International law has become an indispensable body of rules necessary for the continuation of society as we know it today. This has been brought about by the requirement that nations continue unhampered contact with each other. Along with the increasing necessity of interdependency of states to each other has come the increase of development for international regulation. Earlier in our history we could rely on the slow process of customary international law to develop, but advancements have required a speedier process of law-making.[33] The speedier process found has been the increasing utilization of multilateral conventions and treaties.

Like customary international law, the formulation of and agreement to conventions and treaties can be a sluggish process. Regardless of the slowness of this

---

32. See Becker, United States Foreign Policy and the Development of Law for Outer Space, JAG J., 4 (Feb. 1959).

33. Starke, An Introduction to International Law, 12-13 (5th ed. 1963).

process, however, the result is reached by active participation of states in negotiation.

Although the term "treaty" is sometimes considered to deal only with political relations and the term "conventions" more often applied to multilateral agreements, for the purpose of this paper no such distinction between the terms will be made. A more formal and satisfactory definition of a treaty is one promulgated in the Draft Convention on the Law of Treaties,[34] which reads as follows:

> A treaty is a formal instrument of agreement by which two or more states establish or seek to establish a relation under international law between themselves . . . .

Treaties are usually categorized as being of two types: The "law-making" treaty and the "treaty contract."[35] The "law-making" treaty is one which represents the agreement of a large majority of nations, binding themselves to certain rules of conduct, such as the Geneva Conventions, whereas the "treaty contract" is normally a treaty negotiated between two, or a few, countries regarding an area of special interest.[36] Even

---

34. Draft Convention on the Law of Treaties, Art. 1, (a), 29 Am. J. Int'l L. (Supp) 653, 686 (1935).
35. Starke, op. cit. supra, note 33, at 37.
36. Starke, Treaties as a Source of International Law, 23 Brit. Yb. Int'l L., 341-46 (1946).

though, at the present time, only two great powers of the world are capable of mass launchings of space vehicles, it would seem that any agreements negotiated regarding outer space would be of special interest to all nations. With the United Nations available to most of the world's civilized nations for discussion and negotiation, an emphasis should be placed on directing all efforts for multilateral "law-making" treaties to result regarding law and outer space. Outer space and the regulation thereof can surely not be characterized as of interest to only a limited number of states by virtue of its subject matter.

This is not to say that a treaty concluded between only a few states could not be of a "law-making" type, because it could be. It has been suggested that the difference would be in the end result. A "law-making" treaty between only a few states would result in "particular" international law, whereas a "law-making" treaty, with a majority of states of the international community being parties, would result in "general" international law.[37] There will always be a place and circumstance for the use of the "treaty contract," but with the world continuing to become smaller and smaller, the number of

---

37. I Oppenheim International Law 28 (8th ed., Lauterpacht 1955).

"law-making" treaties will necessarily become larger and larger.

Another term used to describe the treaty of the "law-making" variety is "international legislation."[38] If used cautiously, I believe it to be a valid term.[39] However, even a cursory examination of the machinery available to international law reveals the inadequacies attendant to a generally complete acceptance of the term.[40] As long as the term "law-making" is used in the descriptive rather than as a strict legal term, little confusion can result.

It has been mentioned that the world can ill afford to wait for practices regarding the space age to develop to the point of having a regime of outer space law. Treaty making therefore has become an attractive vehicle by which regulations can be agreed to in clear and coherent form. It is an accepted principle that treaties, as applied to the parties thereto, may modify, nullify or contradict any rule of customary international

---

38. See Note, Bishop, International Law 34 (2d ed. 1962).
39. Starke, op. cit. supra, note 36, at 341.
40. See Brierly, The Law of Nations 68-69 (3d ed. 1942).

law, and will supersede customary law in result.[41] However, the most important use, I believe, that can be made of the multilateral agreement at present is to clarify terms, and decide specific regulations and terms of reference regarding outer space. In this sphere, I do not believe we need concern ourselves with nullification, contradiction or modification because so little refers specifically to outer space. In regard to already established customary international law, if rights already exist concerning a particular subject matter, no treaty need be resorted to.[42]

With the United Nations, the international community has been fortunate to have developed a forum ideally suited for the formulation and adoption of multilateral agreements concerning the various ills of the world. I would like to suggest that upon further refinement of the forum a substantial body of law regarding outer space can be forthcoming. The reason that there is a need for all the world to agree is because all the world is affected by the advances being made in outer space. In treaty-making, the maxim Pacta Tertiis nec

---

41. The S. S. Wimbeldon, P.C.I.J. ser A, No. 1, 15 (1923).
42. I Hackworth, supra note 12, at 21.

pacta non prosunt[43] is well established. This maxim can only be "defeated" by the elimination of any "third states" to conventions regarding law in outer space. Progress towards this goal is, and will continue to be, slow; however, it is mandatory. Contractual, bilateral agreements for cooperative ventures in outer space are concluded between the United States and forty countries,[44] which is a beginning to this proposed goal.

In suggesting that international conventions are the means by which some semblance of order can be established regarding outer space, and laws applicable to it, I must necessarily rely rather heavily upon one of the most ancient rules of international law, the sanctity of treaty obligations. Although all nations agree that treaties must be adhered to, why they have binding force is subject to innumerable replies, with none being too satisfactory. Obviously, regardless of the wide acceptance a rule may have, it is capable of breach by any country at any time. If a party of an agreement believes that by ignoring a generally accepted rule its immediate advantage will be greater than its

---

43. Which means generally that third parties receive neither rights nor duties from a treaty.

44. Gardner, supra note 5, at 496.

interest in the rule itself -- and it can get away with it -- the rule of law will fall to pieces. This normally occurs during a period of crisis, but even our sophisticated system of municipal law "falls to pieces" at times. To point to this as a question of weak enforcement of international law is, I believe, to beg the entire problem. This small inutility, however, should not deter any nation from negotiating for possible solutions to problems confronting the family of nations. The United States has taken the initiative in showing its willingness to do just that. This was epitomized in a statement made by President Johnson on April 20, 1964,[45] when he said:

> Our position is clear. We will discuss any problem, we will listen to any proposal, we will pursue any agreement, we will take any action which might lessen the chance of war without sacrificing the interests of our allies or our ability to defend the alliance against attack. In other words, our guard is up, but one hand is out. . . .

As early as 1958, Pepin observed that unless some international agreement was entered into, there existed no legal rule to prevent a state from enacting regulations to control the circulation of spacecraft

---

45. Address by President Lyndon B. Johnson before the Assoc. Press, April 20, 1964, 50 Dep't State Bull. 1298 (1964); 728.

above its territory and extending its sovereignty unilaterally upwards, because no upper limits had been fixed in any international convention.[46] Although the nations of the world have come to some generalized views regarding space,[47] what Pepin stated remains, for the most part, true today.

The need for completed agreements concerning a multitude of unanswered aspects of our ventures in outer space has long existed. The machinery which prevails for our use in adopting international law to these new conditions lies in the intelligent use of multination agreement.[48]

3. General Principles of Law

The use of general principles of law as a source of international law is the practice of considering the general principles of municipal jurisprudence as they may apply to relations of states. It is only natural that municipal law is more developed than international law and can be used as a storehouse of principles upon which international tribunals may draw.[49] Although

---

46. Pepin, Space Penetration, Proceedings, American Society of International Law, 229-35 (1958).
47. Refer to chapter on the U.N., infra.
48. Brierly, The Law of Nations 59-60 (5th ed. 1954).
49. Mahajan, International Law 68 (4th ed. 1963).

Von Schuschnigg[50] states that general principles are repeatedly referred to independently in the practice of modern international adjudication, for the most part in arbitration awards, it has been suggested by at least one author that they are used by courts of international justice very sparingly because they are little needed.[51]

Several examples of the use of general principles of law being used by an international judicial body when the decisions could not be based on any formulated rule or evidence of customary law are the Corfu Channel Case[52] and the Chozow Factory Case.[53]

Although the use of general principles of law is valuable in assisting international tribunals to adjudicate claims, I do not believe it extremely important to the law as applied to outer space, as such. However, I do believe these principles can be extremely valuable as a foundation upon which to base negotiations. Mahagan gave as the reason for using general principles in international law was because ". . . a principle which is found to be generally accepted by civilized legal systems

---

50. Von Schuschnigg, International Law: An Introduction to the Law of Peace (1959).
51. Briggs, The Law of Nations 48 (2d ed. 1952).
52. I.C.J. Rep., 4 (1949).
53. P.C.I.J., ser. A, No. 9, 31 (1929).

can be assumed to be so reasonable as to be necessary to the maintenance of justice under any system. . . ."[54]

This foundation would necessarily be rather elementary, but to begin talks with agreement on some point is usually beneficial in any type of negotiation.

4. Judicial Decisions and Writers' Works

There are some who consider judicial decisions and works of writers as only evidence of what international law is, as opposed to being a source of international law, but I believe they should be considered sources. It has been suggested by Professor Briggs that, in order to add clarity and precision to a discussion of the sources of international law, to employ the term in a formal sense as indicating methods or procedures by which international law is created would be more desirable.[55] When considered in this respect, judicial decisions and writers' works can hardly be considered only evidentiary in nature.

As expressed in Article 38 of the Statute of the International Court of Justice,[56] a judicial decision

---

54. Mahajan, supra note 49.
55. Briggs, op. cit. supra note 51, at 44.
56. Stat. of the Int'l Court of Justice, supra note 13, art. 13.

is only binding as to the particular subject matter before the court. To put it another way, there is no stare decisis followed in the International Court of Justice. In spite of this, while being prevented from treating its previous decisions as binding, the permanent court has referred to them with increasing frequency.[57] The cumulative effect of uniform decisions of municipal tribunals would also be capable of giving evidence of what customary international law is. Mr. Justice Gray, when speaking of the making of decisions in international law, stated in Hilton v. Guyot:[58]

> The most certain guide, no doubt, for the decision of such questions is a treaty or a statute of this country. But when . . . there is no written law upon the subject, the duty still rests upon the judicial tribunals of ascertaining and declaring what the law is, whenever it becomes necessary to do so. . . . In doing this, the courts must obtain such aid as they can from judicial decisions, from the works of jurists and commentators, and from the acts and usages of civilized nations. . . .

And as his reason for resorting to the words of jurists and commentators, he said in the Paquette Habana The Lola Case:[59]

---

57. I Oppenheim, op. cit. supra note 37, at 31.
58. Hilton v. Guyot, 195 U.S. 113, 163 (1895).
59. See note 17 supra.

> . . . . Such works are resorted to . . . not for the speculation of their authors concerning what the law ought to be, but for the trustworthy evidence of what the law really is. . . .

It is premature at this point to predict what value past decisions will have upon the law of outer space. I propose multilateral agreements in this area, which would minimize the use of past decisions. In consideration of the wealth of printed material which has been published by space law "experts" over the last decade, reference to this material can be of invaluable assistance during the formulation stages of multilateral agreements. Some writers have gone into this subject in depth, and their theories and conclusions could enhance the knowledge required by the negotiators in determining workable proposals. Furthermore, such writings could serve as a form of "legislative history," with obvious limitations, in deciding claims brought before the international tribunal designed to hear such claims.[60]

---

60. This statement is also based on the assumption that my proposal for an international tribunal to adjudicate such claims would be formulated.

CHAPTER III

SPACE LAW - SOME ANALOGIES

A. THE LAW OF THE SEA

1. Freedom of the Seas

During the fifteenth century, freedom of the seas, as we know it today, was unheard of. During this period, states, particularly Spain and Portugal, claimed ownership and exclusive use of enormous areas of the sea.[61] During the early 1500's, a young man by the name of Huig Von Groot[62] published a small treatise under the title Mare Liberum,[63] which was written to attack the unjustified claims being made by Spain and Portugal to the high seas in which they were excluding the usettherefrom by any foreigners.[64] It must be realized that opinion to the contrary was generally prevalent, and it would be less than candid to state that at that time Grotius' doctrines were at once universally accepted.[65] Grotius' theory

---

61. McDougal and Burke, The Public Order of the Oceans 765 (1962).

62. He is more generally called "Grotius."

63. Published anonymously in 1608. In 1868 it was discovered that Ch. XII of the treatise De Jure Praedre was the Mare Liberum which was written by Grotius in 1604-5.

64. Magoffin, Grotius on the Freedom of the High Seas, Translation of Dissertation by Hugo Grotius - "Mare Liberum," p. viii (1916).

65. I Oppenheim, op. cit. supra note 37, at 65.

was well thought out and his logic was sound,[66] although admirably attacked by several authors some time later. A portion of the Mare Liberum will convey the essential theme of the treatise. Grotius said:[67]

> No one is sovereign of a thing which he himself has never possessed, and which no one else has ever held in his name . . . . It is clear therefore to everyone that he who prevents another from navigating the sea has no support in law. . . .

Keeping in mind that this treatise was written in the early fifteenth century, Grotius made a statement in the Mare Liberum which holds equally true today as it did in that early time. He wrote:

> If today the custom held of considering that everything pertaining to mankind pertained also to one's self, we should surely live in a much more peaceful world. For the presumptuousness of many would abate, and those who now neglect justice on the pretext of expediency would unlearn the lesson of injustice at their own expense. . . .[68]

So we see that a little more than five hundred years ago appropriation of the high seas was deemed

---

66. In stating that the high seas were not susceptible to dominion he did, however, neglect to consider a fundamental doctrine of warfare where control of the sea, i.e. power to exclude others from its use, is accomplished quite often.

67. Nagoffin, op. cit. supra note 64, at 44.

68. Id. at 6.

lawful and the absence of freedom of navigation was deemed proper. Gradually these ideas were abandoned, but not without considerable difficulty.[69]

By the nineteenth century, it became an accepted principle of international law that the high seas were for everyone's use, and could be appropriated or controlled by no one. Justice Story summed this up when deciding a question of damages for the sinking of the ship "Marianna Flora" by a U. S. privateer when he said:

> The ocean was the common highway of all; appropriated to the use of all; and every ship sailing there with the unquestionable right of pursuing her own lawful business without interruption. . . .[70]

And in 1926 Fauchille said:

> . . . /T/he high sea does not form part of the territory of any state. No state can have over it a right of ownership, sovereignty or jurisdiction. None can lawfully claim to dictate laws for the high seas. . . .[71]

It is suggested that the most compelling reasons for the acceptance of the principle of freedom of the seas by the British and American admiralty courts was more for common social and economic interests of the

---

69. Colombos, International Law of the Sea 45-47 (5th ed. 1962).
70. The Marianna-Flora, 24 U.S. 1 (1826).
71. Colombos, op. cit. supra note 69, at 57.

international community than for the theory of incapability of possession, upon which Grotius based his contention.[72] Nevertheless, regardless of the compelling reasons for its acceptance, the basic principle is accepted by the international community, and as a result a body of rules regarding the sea has been able to develop.

It has been suggested that the law of the sea can be a source of principles which may find their usefulness in the development of the law of outer space.[73] Admiral Ward concerned himself with three areas of the law of the sea which could be used as guidelines for the formulation of space law, although he did not attempt to <u>directly</u> apply sea law to space law. One of these areas was sovereignty as recognized regarding the sea. He did, however, express the opinion that it would be unwise and distinctly premature to attempt to set up or propose specific rules of space law in such an early stage of space travel.[74] This was almost eight years ago, however, and I do not believe this reason would hold true today.

---

72. Edmunds, The Lawless Law of Nations 200-13 (1925).
73. Ward, <u>supra</u> note 24.
74. <u>Id</u>. at 3.

The freedom of navigation on the high seas is internationally accepted as a principle of the law of nations. This same principle has been urged as analogous to the proposed use of outer space.[75] In a sense this may be generally accepted because up to the present time outer space does not lend itself to physical appropriation, and most nations express the desire to apply the concept of freedom of the high seas to outer space.[76] As admirable as this notion may be, the absence of a definition of outer space begets positioning the horse behind the cart. Nations have been able to agree on little more than that outer space exists. With no established limits, we converge head-on with such questions as sovereignty of the air space above national territories. When an attempt is made at defining the area which is designated free to all, we are confronted with the same difficulty that states have been unable to agree upon for centuries: Where does the "sovereignty" end and the high seas begin? Or where is outer space?

---

75. Id. at 4-5.
76. See U. N. Gen. Ass. Res. 1721 (XVI), Dec. 20, 1961, International Cooperation in the Peaceful Use of Outer Space.

More than three years ago the United Nations adopted a resolution[77] recognizing several principles regarding the use and exploration of outer space. Two of these principles were that international law applied to outer space and outer space was free for use by all states in conformity with international law.[78] This would seem to be directly in point with the concept of freedom of the seas; however, is it? At the time of negotiating, the drafters neglected to enumerate with what international law principles the states were to conform, and the big question of defining outer space was left unanswered. Along with this void remained a similar empty spot; does some kind of state sovereignty extend to outer space? This also has gone unanswered, or at least not agreed upon.

With the tempo at which man is moving in missilry, space exploration and scientific technology, the idea of a single nation being capable of dominating outer space and restricting its use by other nations is not necessarily a fanciful one. The world community obviously wants to avoid such a thing from happening by adopting resolutions asserting their desires of preserving its use to all. But there remains a need to become more

---

77. Ibid.
78. Id. sec. 1(a)(b).

definitive before technology replaces sound interpretation. I suggest that international agreements, specific in nature, spell out not only where outer space is, but what freedoms, i.e., rights and duties, exist regarding it, and what rules of international law govern activity in outer space.[79] This suggestion is not in accord with Williams on this subject. He states:

> If the law of space develops through custom and usage, we can expect to see the principle of 'freedom of outer space' develop. On the other hand, if space law were formulated by convention at this time, we would likely see the extension of sovereignty into space -- a most undesirable result. . . .[80]

Can we afford the time which necessarily must pass before sound customary international law principles can develop regarding outer space? I think not. To do this would not only extend the gap we now face between scientific knowledge and a legal regime to govern the use of this knowledge, but such a period would only nurture the same kind of variances we now have in the conflicting claims regarding such things as territorial seas.

---

79. See Ch. VI, infra, regarding progress made in this area by the U.N.

80. Williams, n. 24 supra at 161.

2. Territorial Waters.

Along with the development of the principle of freedom on the high seas, there arose a concept of sovereignty over the marginal waters along the shoreline of a state. This marginal area became known as the territorial sea, and became generally accepted in order to effect the security of a state; furtherance of its economic growth, e.g., fishing rights; and as a protection of its fiscal and political interests by controlling ships approaching its shores.[81] A distinction was therefore early recognized between the high and marginal seas. Most states agreed that each had a legitimate interest in controlling immediate access to their shores and giving exclusive rights in coastal fisheries to their respective nationals. However, the principle of the freedom of the seas was also recognized in a general agreement on freedom of innocent passage through territorial waters, subject to defensive restrictions in time of war.

The United States has, as early as 1794, steadfastly adhered to the principle that the territorial sea extends to a full marine league[82] from its shores.[83]

---

81. Colombos, op. cit. supra note 69, at 82.
82. A marine league is equal to three nautical miles or 3.453 statute miles.
83. Id. at 87.

international views among nations are not necessarily in agreement with this concept, however. There are claims as to territorial seas ranging from three to twelve mile limits.[84] And, as recently as January 1965, United States Senator Ernest Gruening, of Alaska, introduced a bill in the Senate to extend the territorial waters of the United States to a distance of twelve miles offshore.[85] Although the adherence to the three mile concept would seem to indicate that, at least as far as the United States is concerned, definitive limits on sovereignty are easily ascertainable, this is not the case. Even with early and continued recognition of the three mile limit, most states also recognize a need for areas beyond this limit for some type of "control." This

---

84. Heno, in his book The Law of Sea and Air Traffic, n. 1 at 6 (1955), lists the following limits claimed by various nations:

3 mile limit: U.K., U.S.A., Germany, Japan, Holland, Cuba, Panama, Denmark (vis-a-vis states not adhering to 3 mile limit: 4 miles), Belgium, China, Egypt, Greece.

4 mile limit: Norway, Sweden, Finland, Iceland. (4 miles for special purposes) Chile, Ecuador, Argentina.

3-6 miles: France, Poland, Turkey (6 miles for special purposes and in time of war.

6 mile limit: Spain, Portugal, Italy (6 add. in special circumstances), Brazil, Roumania, Uruguay, Yugoslavia.

12 mile limit: U.S.S.R.

In 1954 Peru and other S. American countries claimed a 200 mile limit.

85. U.S. Navy Times, 20 Jan. 1965, p. 31, col. 5.

area has been called the contiguous zone.[86] It is now generally accepted that in this zone, of varying widths according to the state, states may exercise some control for customs, sanitation, and immigration purposes.[87] Beyond this, the United States maintains a zone extending many miles beyond the territorial sea or the stated contiguous zone known as the Air Defense Identification Zone. Exclusive uses such as this could hardly be maintained in Outer Space.

If any kind of rule can be drawn from the varying views of the family of nations it can be stated that it is internationally recognized that the sovereignty of states extends for a distance of at least three miles seaward from their coasts, and it is impossible to go much further than that because countries cannot agree on the limit of territorial waters.[88]

An analysis of the existing rule of customary international law which recognizes freedom of navigation on the high seas results in the question: how and where is it free? It would seem that this principle is only

---

86. See generally McDougal and Burke, op. cit. supra note 61, at 582-607.

87. See generally McDougal and Burke, op. cit. supra note 61; 46 Stat. 747, 749 (1930); U.S.C. secs. 1581, 1586-88.

88. Colombos, op. cit. supra note 69, at 94-7.

true during peacetime, as experiences during the two world wars indicated. Further, the rule has always been subordinated to a state's primary interest of security, which is inevitably defined by each state. When considering the analogy of the law of the sea and the law of outer space in the realm of security, the result is contradiction rather than similarity. It would seem that security risk diminishes on the surface of the sea in the same proportion as the distance from the shoreline of a state increases. With the advances made in reconnaissance-type aircraft and satellites, the opposite seems to hold true in the air, in that the higher a satellite circles the globe, the more apt it is to be able to record activity on earth by means of the newly developed and highly sophisticated photographic equipment now available. The facts surrounding the shooting down of a reconnaissance aircraft over Russia and the flights over Cuba verify this. It can be seen, therefore, that the same concepts of freedom of the sea may not be capable of transferring into a regime for outer space. It would seem that to invoke this same international concept to outer space could involve major security risks and may even affect a state's economic interests unless enforceable multilateral agreements

could be negotiated. With the possibility soon upon us of having manned lunar stations and space platforms, it is not entirely inconceivable that the doctrine of the freedom of the seas and outer space may both be subject to restrictive regulations by means of international agreement.

The law of the sea and its concept of sovereign territorial waters does not offer much guidance in formulating sovereign "territorial air." What it does give us is some insight into the fact that there is, and will continue to be, a need for some area of sovereignty to exist between the ground surface of a state and the space allocated to the free navigation of all. It has been suggested[89] that the sovereignty has no upward limit, but this view can hardly be accepted today since nations have committed themselves to the concept of freedom of use of "outer space" even though

---

89. John Westlake stated, in a meeting of the Institute of International Law in 1906: "If there exists a limit as to the sovereignty of the State over the oceanic space, none exists for the sovereignty of the state over the air space. The right of the subjacent state remains the same whatever may be the distance . . . ." as quoted by Cooper, The Altitude Flight and National Sovereignty, 4 Int'l L. Q. 411, 412 (1951).

such commitments fails in definition. As pointed out by Admiral Ward, it would be fantastic indeed for each nation of the world to claim sovereignty of the space rising from their territory outward to an infinite distance above the earth.[90]

A look at the attempts made by the maritime nations at agreement concerning territorial waters makes the problem of sovereignty in the air appear that much more acute.[91] An initial attempt at some sort of codification was made in a conference at the Hague in 1930. Agreement could not be reached at that time among forty-two states regarding the breadth of the territorial sea, although a draft proposal was made. In 1958, the Geneva Sea Conference was held, and once again failure to agree on the territorial waters resulted. In 1960, at the Geneva Sea Conference, a renewed attempt at agreement was made. A needed two-thirds, of eighty-eight states represented, failed to agree on a proposed limit of a six mile territorial sea and twelve mile fishery limit. We may be heading for the same problems regarding space. The views propounded by some eminent authors in the field of outer space regarding sovereignty in space will

---

90. Ward, supra note 24, at 9.
91. See Colombos, op. cit. supra note 69, at 94-102.

be more fully discussed below. But it suffice at this point to say that we are not in full agreement even within this country regarding sovereignty in space, let alone in agreement in the family of nations. I suggest that agreement should be reached at an early point in space exploration, if possible, before we end up agreeing to disagree in the same manner we are doing with the territorial sea.

3. Collision and Assistance at Sea

The history of attempted agreement regarding the law of the sea is not all bleak, however. In 1910, at Brussels, there were two conventions signed regarding rules of law in regard to collision[92] and rules of law regarding assistance and salvage at sea.[93]

In the convention regarding assistance and salvage at sea, to which there are now forty-five states party to the convention, several of the articles therein could lend themselves to tailored use by the drafters of a law for outer space. Some pertinent articles are:

---

92. For the complete text of the "International Convention for the Unification of Certain Rules of Law in Regard to Collisions," signed at Brussels, Sept. 23, 1910, see Gibb, Marsden on The Law of Collisions at Sea 542 (9th ed. 1934)

93. 37 Stat. 1658 (1913); TS 576.

Article 6 - The amount of remuneration is fixed by agreement between the parties, and failing agreement, by the court . . . (emphasis supplied), Article 9 - No remuneration is due from the persons whose lives are saved . . . .; Article 11 - Every master is bound. . . to render assistance to everybody, even though an enemy, found at sea in danger of being lost.[94]

These selected articles are rather simple but effective. I do not believe that they could retain their simplicity and remain effective in the area of rescue and return of astronauts, but they surely could be used as a basic theme from which effective agreement could be reached.

As for the convention on collision,[95] although the United States never did ratify this convention[96] after signing it at Brussels,[97] it nevertheless indicates what a great number of states can agree upon concerning international regulations. This convention made it quite clear who, if anyone, was to pay damages resultant from

---

94. Id., art. 6, 9, 11.
95. See note 93 supra.
96. Jessup, The Law of Territorial Waters and Maritime Jurisdiction, n. 9, 141 (1927).
97. Colombos, op. cit. supra note 69, n. 2 at 313.

collision at sea, and is attempted to include all possible collision circumstances. There is no reason to believe that this cannot be accomplished regarding outer space also.

In 1948, the International Convention for the Safety of Life at Sea[98] was signed in London. At the present time, seventy states are parties to the convention including the United States and Russia.[99] The question of assistance for parties in distress was answered by a provision which provided: (a) The master of a ship at sea, on receiving a signal from any source that a ship or aircraft, or survival craft thereof, is in distress, is bound to proceed with all speed to the assistance of the persons in distress. . . .[100] (emphasis supplied).

Once again, in 1958 a Convention on the High Seas was signed at Geneva.[101] Article 12 of this Convention states in part: "1. Every state shall require the master of a ship sailing under its flag. . . (a) To render assistance to any person found at sea in danger

---

98. 164 UNTS 113; T.I.A.S. 2495 (1952).
99. Treaties in Force (1964), Dep't of State Pub. 7645 at 257.
100. See note 98 supra at 332 and 334.
101. U.N. Doc. A/CONF 13/L.53 (1958).

of being lost; (b) To proceed with all possible speed to the rescue of persons. . . ."[102] The most helpful sea laws as applied to outer space activity are the established regulations concerning rescue at sea. Internationally adhered to, these rules stand as a workable guide for an accord regarding rescue and return of space apparatus. Profitable knowledge can be acquired from the principles established by such conventions.

It is my view that to mechanically extend the law of the sea to that of outer space would result in the myriad of rules and regulations we now have, full conflict and narrow interpretation. Unless all agree that freedom to use outer space should not be the subject of agreement at definition, the need for international accord and cooperation is mandatory. What we can learn from the law of the sea is that agreements can be reached on some matters. This alone makes the effort worthwhile. Substantive rules can result from extensive negotiation; therefore all nations should strive to get some rules into concrete form.

---

102. Id., art. 12(a)(b).

B. AIR SPACE LAW

Perhaps the experience the international community has had regarding regulation of aircraft can be gainfully utilized in drafting some sort of rule of law for outer space. It would seem that there is more relationship here with outer space than there is between the sea and outer space.

Air law has been of relatively recent origin, and because of its newness the law governing the rights between nations regarding the use of the airspace for the navigation of aircraft is almost entirely treaty law. This alone lends itself to a striking comparison with what, I suggest, should be the path taken for formulating a legal regime for outer space.

Until the late 1800's, there was little use for laws pertaining to aircraft, and the question of sovereignty over a state's land was not an important one.

In 1889, the first International Conference on Law was held in Paris.[103] Although not much was accomplished, it indicates an awareness by states that some discussions were needed regarding law in the air.

---

103. Tombs, International Organization in European Air Transportation 4 (1936).

1. An Attempt at Definition

One of the several areas needing qualification in a regime for space law is a definition of space, in order to bring forth a general agreement to the question of sovereignty. This question has been the subject of many conferences during this century, and possibly some agreement, but it must continue until a more encompassing agreement can be reached. A look at the law of air space can give some insight into the problems facing the family of nations in attempting to determine sovereignty rights in space. A brief outline of the history of negotiations in this area may be helpful.

2. Sovereignty Solved?

During the early 1900's, Fauchille was the strongest exponent of complete freedom of the air, while giving away a bit to sovereignty by recognizing some sovereignty at very low altitudes -- for security purposes.[104] On the other side of the controversy was John Westlake of England who advocated sovereignty of the air space above a state into infinity.[105]

---

104. Fauchille, Bonfils Manuel de Droit International Public, vol. i, pt. I (8th ed. 1922).
105. Cooper, supra note 89.

In 1910, an International Conference of Air Navigation met in Paris in an attempt to settle, or at least compromise, the question. The one thing they did agree on was that a plane from one state could fly into another, as long as security was not endangered, a seeming victory for the followers of Fauchille.

With the coming of World War I, the capabilities of aircraft became more fully realized and along with it came the realization of a need for more adequate regulation. This led to a conference in 1919 at Paris, which resulted in a convention[106] regarding air navigation. This convention was readily acceptable and signed by many (although the United States never did ratify it). The convention recognized that every state had ". . . complete and exclusive sovereignty over the airspace above its territory. . . ."[107] and article 2 provided for innocent passage of aircraft, subject to certain restrictions.

This same general concept prevailed, except for the period during World War II, and into the conference

---

106. Convention for the Regulation of Aerial Navigation, 11 League of Nations Treaty Series 173 (1922).
107. Id., art. I.

convened in Chicago at the behest of the United States in 1944. During the period from 1919 to 1944, the United States, by enactment of municipal laws, had reasserted its acknowledgment of sovereignty in the airspace above this country.[108] In 1926, Congress passed an Act[109] to regulate the use of aircraft. Section 6(a) of that Act declared ". . . the United States has, to the exclusion of all foreign countries, complete sovereignty of the airspace over the lands and water of the United States. . . ."[110] It then provided for the granting of permission to foreign aircraft for the use of this airspace. This same concept was embodied in the Civil Aeronautics Act of 1938.[111]

At the Chicago Convention of 1944,[112] fifty-two states[113] gathered to attempt to reach agreement on

---

108. For a recent assertion of this concept see address by U.S. Johnson before the New York University Air Transport Conference at New York, Sept. 10, 1963, 59 Dept't State Bull. 1266 (1963), 356, where Mr. Johnson stated, "[W]e are sovereign only over our own airspace. If we wish to fly elsewhere in the world, then we must get permission from other sovereign states. . . ."

109. Air Commerce Act, 44 Stat. 568 (1926), 49 U.S.C. secs. 1301, 1472, 1473, 1507-09.

110. Id. at 572.

111. Civil Aeronautics Act of 1938, 52 Stat. 973 (1938), secs. 1301-1542.

112. For a complete text of the Chicago Convention on International Civil Aviation of 1944, see 15 UNTS 102 (1944).

113. Russia did not take part.

a set of internationally recognized rules for aviation.[114] Among the topics discussed, and agreements reached, was the subject of sovereignty. Articles 1 and 2 read as follows:

> Art 1, Sovereignty
> The contracting States recognize that every State has complete and exclusive sovereignty over the airspace above its territory.
>
> Art 2, Territory
> For the purpose of this convention the territory of a State shall be deemed to be the land areas and territorial waters adjacent thereto under the sovereignty, suzerainty, protection or mandate of such State.[115]

Article 8 of the convention becomes a very interesting provision when looked at from the position we are in regarding space vehicles. It states:

> No aircraft capable of being flown without a pilot shall be flown without a pilot over the territory of a contracting State without special authorization by that State. . . .[116]
> (Emphasis supplied.)

The convention was applicable to civil aircraft only[117]

---

114. Shawcross, Beaumont and Browne, Shawcross and Beaumont on Air Law 7 (2d ed. 1951).
115. Note 112 supra, art. 1, 2.
116. Id., sec. 8.
117. Id., sec. 3.

and as a companion agreement, a modified innocent passage agreement was made.[118]

This convention appeared to settle, once and for all, the question of sovereignty. But did it really? The big gap it neglected to fill was a definition of "air space." None was mentioned in the convention, so the argument lingers on. Although we have an abundance of expert opinions on the subject, there exists today no international consensus on the matter. It appears that there is wide agreement that there should be some sort of upper limit to national sovereignty, but no agreement on what that limit should be.

3. Damages

In 1933, a conference was held in Rome from which came the Convention of Rome.[119] The purpose of the convention, which was successful, was to create a uniform regulation concerning liability for damages caused by aircraft to third parties on the ground. Unfortunately, the convention is only in force in five countries at present.[120] This convention, however, may

---

118. International Air Transport Agreement, DAS #87 (1944).

119. For full text of this convention, see Shawcross, Beaumont and Browne, op. cit., supra note 114, at 608-13.

120. They are Belgium, Brazil, Guatemala, Roumania and Spain. The convention was signed by the U. S. with the reservation that it would only apply within the continental limits of the U. S.

offer us a guide in negotiating the same subject matter regarding outer space because it covered such areas as proof of liability,[121] amount of liability,[122] insurance coverage,[123] effect of negligence[124] and jurisdiction.[125] The only new convention in this area to be concluded is the Convention of Rome of 1952, which, although intended to replace the 1933 convention, still does not have as signatories some of the larger states, such as the United States and the United Kingdom, and no country has ratified it.[126] Therefore, it appears that we cannot rely too heavily upon what has been accomplished in the development of air law in order to formulate a system of remuneration for damages to third parties,[127] or to decide the question of sovereignty in space.

---

121. The Convention of Rome, 1933, USTS 876.
122. Id., art. 8.
123. Id., art. 12.
124. Id., art. 14.
125. Id., art. 16.
126. Mene, op.cit. supra note 84, at 280.
127. It should be noted that the Warsaw Convention of 1929 (49 Stat. 3000) concerns itself with liability for injuries, but only in regard to passengers.

CHAPTER IV

WHO PAYS?[128]

A. THE NEED FOR RULES

As time progresses so too will the number of spacecraft launched into outer space. Mr. Spencer M. Beresford has predicted that spacecraft launchings are expected to increase as follows:

> By 1965 - 500 to 1,000
> By 1970 - 2,000 to 5,000
> By 1975 - 5,000 to as many as 50,000[129]

With such an increase, we can expect the possibility of damage to areas on earth to also increase. Granted there has not been a great amount of such incidents occurring since man began sending vehicles into space, but just one such incident should give cause to begin considering the consequences attendant thereto.

In 1956, the United States launched a SNARK from the east coast of Florida, but shortly after launch control was lost and it flew free to South America where it

---

128. It will not be the purpose of this chapter to discuss damages occurring within the U. S. For an excellent treatise on claims for personal injury or property damage caused by spacecraft in the U. S., see Haley, Space Vehicle Torts, 36 U. Det. L. J. 299 (1959).

129. As quoted by Schwaber, Outer Activities and Resulting Tort Liability, 17 Ohio St. L. Rev. 139 (1964).

was ultimately lost over the Greenland interior.[130] As Perry indicated in his article on space vehicle liability:

> The point of international impact is not predictable yet as shown in the Discoverer series where an impact in the vicinity of the Hawaiian Islands was intended when Discoverer XIII and the reentry package carried from the satellite reportedly landed in the Arctic. The capsule from Discoverer XIII fell north of the prescribed recovery area. This area was 50 miles by 200 miles. . . . The Discoverer XI capsule missed the 12,000 square mile area by at least 1,000 miles. . . . Both vehicles were elaborately designed for reentry to the Earth's surface. Only a small error in a timing device can result in the impact being one quarter the way around the world like Discoverer II . . . .[131]

In a discussion concerning proposals regarding liability for damage before the United Nations Committee on Peaceful Uses of Outer Space in September 1963,[132] Ambassador Plimpton described a metal object which landed in a street in Morrowan, Wisconsin, on September 5, 1961. Which, he explained, was man made, of

---

130. Berkeley, Legal Aspects of Space Damage Caused by U.S. Spacecraft, 19 Fed. B. J. 262 (1959).

131. Perry, Space Law: Surface Impact Liability of Space Vehicles, 24 Ohio L. J. 89, 93, 94 (1961).

132. U.N. Doc. A/AC.105/P.V. 14, 56-57 (1963).

[illegible] orbit for a considerable length of time. Subsequent information regarding this incident revealed that this object came from the Russian satellite SPUTNIK IV and that more than twenty other fragments were discovered in the surrounding area from the same vehicle.[133] Simeone pointed out that the carrier of SPUTNIK III, which fell into the South Pacific Ocean, was about the size of a pullman car and weighed between two and three tons.[134]

In 1962, a rocket launched by the United States for the purpose of placing a satellite in orbit, malfunctioned and a portion of the vehicle landed on a farm in Cuba.[135]

In the Space Navigation Symposium[136] prepared for the use of the Senate Committee on Aeronautical and

---

133. N.Y. Times, Oct. 7, 1962, p. 42, col. 1-7 (city ed.).

134. Simeone, Space: A Legal Jetsam, Mil. L. Rev., 31 (April 62).

135. Berger, Space Vehicle Systems and Third Liability under Anglo-American Law, Proceedings of the Fifth Colloquium on the Law of Outer Space 3 (1962), International Institute of Space Law of the International Astronautical Federation [hereinafter cited as 5th Colloquium].

136. Legal Problems of Space Exploration, A Symposium, Prepared for the Use of the Senate Committee on Aeronautical and Space Sciences, S. Doc. No. 26, 87th Cong., 1st Sess. (1961) [hereinafter cited as S. Doc. No. 26].

Space Science, there appears a table[137] in which is listed all United States satellite, lunar probes and space probes for the period 1957-1960. A list of the partial results of each of these launchings can give a clearer picture of what is going. Attention must be given to agreeing upon recovery procedure for possible damages incident to unscheduled impacts of satellite or booster vehicles, or parts thereof. Some of these results have been:

FEB 5, 1958: VANGUARD (test veh. 3)
RESULTS: After a successful lift off and 57 sec. of flight, a connection between units of 1st stage control system failed to function. At an altitude of 20,000 ft., the rocket veered off course with such force that it snapped apart and fell . . . Vehicle did not achieve orbit[138]

APR 28, 1958: VANGUARD (test veh. 5)
RESULTS: 2 minor components . . . malfunctioned and failed to signal 3d stage to fire. 2d and 3d stage impacted 2,500 miles from launch site[139]

MAY 28, 1959: VANGUARD SATELLITE LAUNCHING VEH. 1
RESULTS: Second stage engine did not cut off properly, causing vehicle to fly with [illegible] rather than parallel to earth . . . 2d stage or satellite. . . satellite 7,500 miles. . . landing near east coast of South Africa. Flight time 20 min.[140]

---

137. Id., App. I at 1305.
138. Id. at 1307.
139. Ibid.
140. Id. at 1308.

SEPT 26, 1958: VANGUARD (SLV-2)
RESULTS: [illegible] . . . it is believed to have made 1 orbit of earth before falling back and burning up over Central Africa.[141]

DEC 6-7, 1958: PIONEER III
RESULTS: . . . Reentered atmosphere over French Equatorial Africa on Dec 7, 1958 . . . .[142]

DEC 15, 1958: PROJECT SCORE (ATLAS)
RESULTS: Re-entry occurred in vicinity of Midway Island in Pacific Ocean.[143]

FEB 28, 1959: DISCOVERER I
RESULTS: . . . After 5 days, it is presumed . . . the satellite burned up on re-entry into atmosphere at an unknown point . . . .[144]

APR 13, 1959: DISCOVERER II
RESULTS: [illegible] . . . Other difficulties could occasion impact in vicinity of Spitsbergen Islands Apr 14 instead of Greenland vicinity, where it was recovered . . . Capsule which contained radiation emulsion packs has not been found . . . .[145]

NOV 22, 1959: VANGUARD (SLV-6)
RESULTS: A faulty oxygen pressure valve caused failure . . . Additional tank burst when vehicle was at 70 to 80 miles altitude . . . 3d stage ignited before plunging into Atlantic Ocean some 500 miles North East of Atlantic Missile Range.[146]

---

141. Id., at 1309.
142. Id., at 1310.
143. Id., at 1311.
144. Id., at 1312.
145. Id., at 1313.
146. Id., at 1314.

NOV 20, 1959: DISCOVERER VIII
RESULTS: . . . [illegible] capsule was ejected [illegible] was not recovered and search was abandoned.[147]

APR 15, 1960: DISCOVERER XI
RESULTS: . . . The capsule was not observed to descend into the recovery area, and recovery was not attempted.[148]

SEPT 25, 1960: PIONEER LUNAR ORBITER
RESULTS: . . . Pieces of the stage were later found on a farm in the Transvaal, South Africa.[149]

After this rather voluminous account, I hasten to add that the partial results of some U. S. launchings should not by any means give the impression that there are few successful and meaningful flights completed. The malfunctions or misdirected vehicles are fractional compared with the successes. In spite of the fact that the chances of satellite or rocket remnants landing in a populated area are relatively small, they do seem large enough to pose a legal problem. We are in the learning stage of this business and [illegible] will occur, however, it would seem to be only fair and a price of doing business in space, which has been declared to belong to all, a country that launches space vehicles and crashes

---

147. Id. at 1319.
148. Id. at 1322.
149. Id. at 1325.

a risk of damage to property or people on earth should bear the equal obligation to recognize the rights of others to be protected from suffering damages and to called remuneration of some type if it occurs. At present, any basis for placing liability for spacecraft damage is unsettled. We are headed in the right direction as soon as we sign an agreement which adheres to the words of General [illegible], former Air Force Judge Advocate General, who said:

> We should immediately recognize and agree that damage caused to persons or property by [illegible] of the nation launching the [illegible] space vehicle. . . .[150]

3. WHAT IS AVAILABLE?[151]

Under the provisions of the Federal Tort Claims Act,[152] the United States has waived its sovereign immunity and can be sued for certain acts of government employees. However, this act specifically excepts any claim arising in a foreign country.[153]

---

150. Kunfeld, The Space Age Legal Dilemma, 3 JAG Bull. 5, 7 (1961).

151. Original liability arising as a result of spacecraft damage will not be considered. It is the author's view that an international convention regarding damage payment should preclude criminal action.

152. Federal Tort Claims Act, 28 U.S.C. secs. 1346, 1402, 1504, 2110, 2401, 2402, 2411, 2412, 2671-2680.

153. Id. at sec. 2680.

There are several possible ways in which a claim arising in a foreign jurisdiction may be processed. However, all such procedures are severely restricted to such a degree that their applicability would seem to be extremely inadequate for damages which may occur from a spacecraft, or a piece thereof, plummeting to earth.

The first area which must be settled is the question: should any damages be paid, since this is being done for the over-all benefit of mankind? Even though the activity is undertaken with the express desire to discover facts and data which can be used for the general welfare,[154] it is an activity which involves an unusual risk of danger to the public. Since this is so, Mr. Haley suggests[155] that the entire question would be settled much better by the implementation of an international treaty on legal and financial liability for injuries resulting from space vehicle accidents. A look at the remedies available for claims arising outside of the United States, will better explain this view.

One of the ways in which small claims resulting from spacecraft damages may be collected is through the use of

---

154. See Preamble of G. A. Res. 1721 (XVI).
155. Haley, Space Law and Government 264 (1963).

provisions contained in the National Aeronautics and Space Act of 1958.[156] This Act authorizes the payment on behalf of the United States of any claim resulting from the conduct of the Space Administration's functions. However, the payment, in full, can only be for $5,000 or less. The only provision for exceeding the dollar limit is contained in a provision[157] which allows the secretary to certify any claim exceeding that amount to Congress, if he believed it to be just and reasonable, for their consideration. Although $5,000 may have taken care of the alleged damage to livestock in Cuba, it is doubtful whether many claims in the future will be so minor. The booster alone of the largest Russian satellite was larger than a boxcar. This ceiling amount seems wholly inadequate, and in the future I believe it will only hamper an already and busy Congress with needless special legislation.

Another avenue which may be open for recovery for damages would be through the use of the Foreign Claims Act.[158] Under this Act, the secretaries of the various

---

156. National Aeronautics and Space Act of 1958, 72 Stat. 426-31 (1958), 42 U.S.C. 2455-76.

157. Id. at sec. 207, (a)(1)(B).

158. Foreign Claims Act, 10 U.S.C. secs. 2734-35 (1956).

military departments are given authority to settle claims arising in foreign countries. The claims must arise out of noncombat activities of the various military services, contemplate upon a causal connection with an act or omission of military or civilian personnel and incident to the noncombat activity. There is no necessity to establish negligence in order to have a valid claim.

Here again, the monetary limitation plays a part in minimizing the effectiveness of this remedy in the case of damages caused by space activity. The secretaries have authority to settle claims in an amount not exceeding $1),000, and above that amount, a justifiable claim can be certified to Congress.[159] Although this restriction is not so woefully inadequate as that allowed by the National Aeronautics and Space Act, it does not appear to be sufficient, considering the possible dollar value damage resulting from one accident. It does, however, show a move in the right direction. Also, this inadequateness indicates that, in the area of space law, there is a need for further legislation regarding the payment of claims.

---

159. Id. at (a)

similar obligations have been assumed by the United States with some countries from which are leased facilities used in connection with missile development.[163]

It would seem that, in the absence of international agreement, most private citizens of foreign countries will be relegated to the use of diplomatic channels for their satisfaction of claims, which is an uncertain path to travel at best. In spite of the fact that some authority is given to settle claims in foreign jurisdictions, their monetary limitations will, if invoked, make their practical usefulness minimal.

It has been suggested by Dr. Rode-Verschoor[164] that one other solution may be to have an International Guaranty fund within the United States to which all nations would make compulsory contributions. Wanner believes

---

163. Examples of American obligations to pay "adequate and effective" compensation, or damages to be measured by local law for claims of injury and damage caused by space activities include the obligations to compensate for injuries arising from the establishment, maintenance or use of the Bahama Tracking Station Agreement with Great Britain, July 21, 1959, art. XXII, (1959), 2 U.S.T. & O.I.A. 1985, T.I.A.S. No. 4309, and satellite and space vehicle tracking station in Nigeria, Agreement with Nigeria, Dec. 19, 1960, art. XIII, (1960) 1 U.S.T. & O.I.A. 1268, T.I.A.S. No. 4605. Other countries have signed agreements allowing the United States to install tracking stations, but silence on this agreements is any provision regarding payment of claims.

164. 1958 Symposium 216.

[illegible] to be quite unprecedented.[165] It would seem that there may be some difficulty in this area if the recent problems concerning assessments of members of the United Nations for peacekeeping operations give any useful indication of the willingness on the part of various members of the international family to contribute funds.[166] Then again, would all nations be willing to contribute to a fund which they may not be able to take advantage of for some years to come, if ever? I would think not.

Hand in hand with establishing a means of ascertaining liability for harm caused by spacecraft goes the decision as to a forum in which those claims may be adjudicated. If no decision is made, as Marjorie Bexsford, there may be as many different forums (and rules thereon) as there are jurisdictions.[167]

It is the opinion of Rode-Verschoor[168] that the International Court of Justice be designated as the forum

---

165. Wiener, [illegible] (Convention on Damage Caused by Space Vehicles), 5th Colloquium 6.

166. Washington Post, Feb. 7, 1965, p. A23, col. 3-5.

167. Bexsford, [illegible] International Convention on Spacecraft Liability, Proceedings of the Sixth Colloquium on the Law of Outer Space 3 (1963). International Institute of Space Law of the International Astronautical Federation (hereinafter cited as 6th Colloquium).

168. Rode-Verschoor, [illegible] Liability for Damage Caused by Space Craft, 7th Colloquium 3.

for adjudicating all claims arising out of space activity damage. However, although he believes that this court should be the tribunal for settling these claims, Dr. Roos-Vershoor suggests further that an agreement may be easier to be reached if the jurisdiction of the place where the craft causing the damage was registered was used. It seems that if we use this method, we are placing ourselves right back where we started, since not all jurisdictions agree on how to measure damages.

Wimmer[169] suggests using an International Court for these claims but also suggests that for the payment of small claims the national courts should maintain jurisdiction. As for claims of a small amount against the United States, however, it would appear that the administrative acts mentioned above would suffice.

I believe Beresford[170] suggests the most feasible solution. He would not have jurisdiction in the International Court be exclusive, but rather the launching and/or licensing state and the foreign injured party (either for itself or one of its citizens) would attempt a settlement through negotiation. Then in failure to settle

---

169. Ibid.
170. Beresford, supra note 167, at 7.

results, matters to the International Court of Justice would become compulsory. It is realized that only states can be parties before the International Court of Justice,[171] but Haley points out that a state may protect its own individual citizens, as to international law, by bringing their citizens' claims for them before the world court.[172]

In view of what has been said, it becomes apparent that there is a necessity to create a new and completely independent international agreement respecting claims for compensation arising out of spacecraft damages. Much can be gained in drafting such an agreement by looking at certain features of the present United States law on space claims, e.g., no need for proving negligence, and the like, and the treaties now in force with certain countries.[173]

C. SOME THEORIES OF RESPONSIBILITY

A jurisdiction problem which must be discussed along with method of compensating those who may suffer from certain aspects of space activity is the manner in which to fix responsibility for damages. Several theories for fixing responsibility have been proposed which will be considered below.

---

171. See Stat. Int'l Ct. Just., art. 34.
172. Haley, op. cit. supra n\1 155 at 259.
173. See note 155 supra.

1. No Liability

...ore too many space on a no liability concept re-...ng space vehicle damage. However, Lipson and Katzen-bach reason that:

> Because a satellite launch is analogous to that of a vehicle in not being subject to human control, the result should, like the uncontrollable fall of a meteor, be considered as an act of God. The launching nation would have no liability for resultant damage.[74]

This analogy fails to take into account the fact that meteors "begin" from a much greater place than our man made satellites, and as mentioned above, do not always "reenter" because they never achieve orbit.

It can hardly be disputed that a nation would build a machine, attempt to place that machine in orbit around the earth, and during that attempt cause injury to a national of another country, possibly knowing absolutely nothing about the attempt, and yet such activity likened to an act of God and escape responsibility for placing that person, as nearly as humanly can, accomplish this, back in the same position as before. It could seriously be this could ever be internationally agreed upon, but, even if it could, I would think there is a moral objection to the mere statement.

---

[74]. Lipson and Katzenbach, The Law of Outer Space 52.

Such activity [illegible] the peoples of the world in a hazardous pursuit, whether it may be, thus to allow no recovery seems unobtainable.

2. Negligence

Another theory of [illegible] responsibility could be based on negligence. It seems axiomatic that any nation launching a spacecraft has the duty of care to insure that such launching will not injure others. Negligence could occur when the country, or rather its agents, act in breach of this duty of care. The care required would be that which a reasonable man would exercise under like circumstances. When we speak of satellites, there is no doubt that such care required would necessarily be greater than say that required of airplane launchings, because the risk of damage [illegible] greater. However, we can see that the airplane industry, [illegible] in history, had the same care requirement that is now advocated for space activity. In fact, Botchkay indicates that it went further than negligence in the early days of aviation. He said:

> At the outset, the courts and makers of the early laws of flight [illegible] to compare aircraft to a dangerous animal[illegible] and writers and legislatures at large at [illegible] and unusual or not [illegible] liability to the owner or operator.[7]

---

[7]. Botchkay, The Law of Aviation 33 (2nd ed. 1938).

With the advances being made in the safety factors of aircraft operation, it would seem that a theory of negligence would apply to and accidents caused by airplanes. But the infancy of space activity dictates otherwise. Schrader indicates that liability for aircraft damage is only present when accompanied by negligence,[176] and Haley tends to agree.[177]

Even if the negligence theory could be used for space damage, I can envisage an insurmountable problem facing a claimant in gathering proof to support his claim. Until space travel advances to the stage where private industry freely indulges in the area, the government will continue to be the only direct participant. Along with this fact goes classification in the interest of national security. How would a prospective plaintiff discover the cause of the crash? It is fair to say that post-crash investigations will remain as highly classified, for some time to come, as the inner operations of our satellite centers are today. Even in the non-classified field of aviation, Haley mentions the difficulty encountered in obtaining

---

176. Schrader, Space Activities and Resulting Tort Liability, 6 Colloquium 17.

177. Haley, Space Vehicle Torts, 30 U. Det. L. J. 256.

fence to use as a basis for showing negligence.[178] In essence, the ordinary claimant would be helpless to collect any useful information on which to build a case and substantiate his claim of negligence. And one cannot forget that, as yet, there is no standard by which to judge negligence in space.

If negligence were considered as a desirable theory, the possibility of its use using the Anglo-American rule of evidence, res ipsa loquitur, may be considered as appropriate. Under this doctrine, the circumstances themselves indicate that but for negligence it is improbable that such an incident could have occurred, and a jury (international court?) need not require further evidence as to cause in order to find negligence. As Mr. Haley points out, this rule is one of human experience,[179] and too, I do believe our experience in this field have been sufficient in order to establish it as a basis for recovery.

Space vehicle damage seems, to me, to be fraught with too many intangibles or unpredictables so as to base a theory of recovery on the negligence of the operators. And another facet of this concept has been aptly pointed

---

178. Jr, at 299.
179. Id. at 305.

of by Mr. Spencer Beresford when he said, "If liability is based on fault . . . it will be vitiated by political questions."[180]

3. Strict Liability

There are many writers on the subject of outer space who believe that the concept of strict liability, or liability without fault, is the best means of compensating for any damage arising from space activity. We have seen the pitfalls of using the negligence standard, simply because security could prevent a claimant from finding any facts to support his claim. The no liability theory is much too callous for even the earliest lawmaker to accept, but at this time in the development of space vehicles, strict liability seems applicable.

Mr. Goldie describes strict liability as existing

> /W/hen compensation is required of an individual or enterprise for injuries it caused to others regardless of the agent's compliance with all standards of care.[181]

There is in the author's mind that the standard of care used for our missile launching sites is of the highest, but accidents can happen, as indicated earlier. At this stage in the known age of spacecraft, I believe it would be safe to characterize such activity

---

180. Beresford, supra note 16, at 3.
181. Goldie, Some Problems of Liability Arising out of Space Activities, 37 Canadian

as ultra-hazardous because strict liability is not too severe or inapt in accident cases. In this sense, the basis for applying strict liability to an ultra-hazardous activity would be necessary even if all reasonable precautions are taken, there still remains an irreducible minimum of grave risk.[182] And the Restatement of Torts refers to the "unpreventable miscarriage of the activity"[183] which would aptly apply to space exchange.

As long as the probability of spacecraft damage exists, it would appear that to apply the doctrine of strict liability could certainly aid in achieving more rapid results in compensating the injured complainant. From the standpoint of time, expensive and highly technical post-launching investigations could at least be eliminated. And as Beresford points out, a system of liability without fault would be much simpler both to negotiate and to administer.[184]

Although the doctrine of strict liability has long been established in Anglo-American law, as proclaimed in the land-mark case of Rylands v. Fletcher, which held that one keeps on one's land uncontrolled

---

182. Harper and James, The Law of Torts 991 (1956).
183. Restatement, Torts, sec. 519 (1938).
184. Beresford, supra note 167, at 9.

[illegible] absolutely liable for any damage caused by pollutants or property by its instrumentality,[165] such a doctrine is not universally accepted. Under the various municipal legal systems throughout the world, much diversity exists governing the standards used in determining liability for damages.[166] In order to establish uniform standards by which liability for damages is established, international agreements should be concluded on the subject.

Another important question which has not been discussed at any great length is by what means refunding will be made for damage. This could take the form of money (which brings up the questions as to whose money will be paid), the payee's or payer's, restitution of the object, diplomatic courage and apology, or punishment of the responsible persons.[167] At our present time, I believe compensatory damages would seem to dictate that the payment of money damages would be the best system.

Liability without fault seems to be a practical obstacle to adopt on an international basis at this time [illegible] very [illegible] actively engage. With the growth of

---

165. Dyniana v. Rayburn, 179 So. 2d 390 (1965).
166. Beresford, supra note 130, at 242-254.
167. As cited by Foote-Verzosa. See note 166 supra at 2.

[illegible] exploration is necessary, these doctrines may become more reasonable in the future, but not at present.

D. [illegible]

Little has been said [illegible] regarding a monetary limit to be set on liability for spacecraft accidents. A limit would appear to be acceptable to most nations in that many have agreed on some restriction in similar areas. In 1962, the Brussels Convention on the Liability of Operators of Nuclear Ships[168] [illegible] the maximum total compensation to be paid "by the operator" with respect to any nuclear incident, as limited to 1,500 million francs[169] (approximately $300 million). This would seem to be a reasonable amount as a limit on recovery with the minor change of the word "operator" to read "launching state." Of course, the attendant problem of registration and identification of space vehicles arises in a discussion of liability, but this will not be discussed here.

---

[168] Signed at the close of the Eleventh Session of the Diplomatic Conference on Maritime Law, Brussels, [illegible] May 1962 on behalf of the following states: Belgium, Republic of China, India, Liechtenstein, Poland, Republic of Korea, Liberia, Principality of Monaco, Panama, Republic of the Philippines, Portugal, United Arab Republic, Yugoslavia. For complete text of the Convention, see 57 Am. J. of Int'l L. 268 (1963).

[169] Convention on the Liability of Operators of Nuclear Ships, 57 Am. J. Int'l L. 268 (1963).

(Section)

Recovery and Return

One of the areas of space activity which has received little attention is the recovery and return of manned or unmanned spacecraft to the launching state. Some progress has been made in the United Nations in this area, but there are several problems which do not seem close to solution.

As we have seen, a launching space vehicle can be moved to earth for any one of four reasons, or for designation. Since this is true, some agreement must be reached whereby the launching state can recover its vehicle, and pilots, if any, with a minimum of difficulty. Mr. Haley points out that unless there is an international agreement concerning this subject, the problem of recovery will necessarily depend on the laws of the country where the vehicle lands.[190] This could lead to many problems, and, I believe, it would be wise to agree now before the problem becomes more acute than it is already.

One of the difficulties would disappear if persons or equipment found in the satellite which may be classified

---

190. Haley, op. cit. supra note 155, at 865.

as surveillance, or "spy" satellites. Some incidents already experienced by the United States may show the road ahead not to be a smooth one. In early 1964 an American plane accidentally flew over Soviet territory and made a forced landing. The Russians returned the two flyers, but would not return the equipment in the airplane, saying it was used for spying. And this is where the problem arises. Secretary of State Dean Rusk said of this event

> /I_7t is true that many of the aerial reconnaissance aircraft as a matter of a tactical reconnaissance operation [sic] I suppose the Russians locked at this pretty hard.[1]

And one can easily see equipment carried in a satellite gathering scientific or meteorological data which could be considered a "security risk" and not returned. This seems to be an immediate problem which should be solved. Negotiations regarding such problems have in the past been somewhat hampered by the unfortunate overflight incidents and the Russian penchant for secrecy bordering on fanaticism accompanied by an obsessive anxiety over espionage. The bargaining position of the United States is not ideal, but agreement is not inconceivable.

---

[1] Dean Interview, Mar. 27, 1964, 50 Dept. State Bull. 1094, 574 (1964).

It is interesting to note that the latest revised draft agreement on the rescue of astronauts and space-ships in the event of accidents or emergency landing submitted by the Canadians is silent regarding "offensive" equipment.[92]

Much can be gained from international cultural exchanges and visits of the astronauts. It is the duty of each nation to help to render assistance to anyone in need; and there is little motion to exclude such a rule from space activity. The refinement which must be made is how much assistance can be given, how many personnel or how much equipment must a nation utilize to assist in recovering an astronaut? Nothing suggested is incapable of agreement, however. Again, as in the other areas discussed, the big question is whether to wait for the different bands of international law -- mutuality of interest -- to develop, or should we seek to further the broad humane purposes of science and world security by an early (and much needed) convention on the subject. Little more remains in my mind that a convention covering some of the problems discussed here should be made immediately.

---

92. U.N. Doc. A/AC.105/C.2/L.2/Rev. 2 (1964).

CHAPTER VI

The United Nations

The necessity of the [illegible] beyond ground and of a very slow pace for its progress will require extended and patient negotiation. Negotiations, as painstaking as these negotiations may be, may be more than justified as they help to create and lend traits to peaceful solutions to the common problems facing the world community. The United Nations has played a vital role in world affairs since its creation. And although its basic soundness has, at times, been questioned, there is little doubt that it has served the cause of nations.

The history of negotiations in the field of outer space is a comparatively short one, but it can show some progress, which everyone fervently hopes will continue. As President Johnson said upon commemorating the 15th anniversary of the United Nations: "The victories of the U. N. do not always make headlines but they do make history."[15]

On December 13, 1961, the Ad Hoc Committee on the Peaceful Uses of Outer Space was established with membership

---

[15]. For full text of address, see Remarks by President Johnson, Oct. 29, 1965, 53 Dept'e State Bull. 1033-37 (1965).

[illegible] participating.[194] Six months later (July and June), the first session convened in an atmosphere of the most current hostilities in space,[195] not unfortunately, due to some dissatisfaction on the part of several members regarding the Committee composition, only thirteen nations participated.[196] Later in 1959, the membership was increased to twenty-four countries, which seemed to satisfy the discontented members, along with remaining in the Committee on the Peaceful Uses of Outer Space.[197]

After an initial agreement concerning increases in membership, the United States and Russia carried on extensive differences concerning reconstruction of the Committee, which prevented a meeting from being held for two years, except for one on the use of [illegible].[198]

On December 20, 1961, the General Assembly adopted a resolution[199] which set forth some general principles regarding space exploration and requesting the committee to meet before March 31, 1962.

---

194. U.N. Gen. Ass. Res. 1348 (XIII) (1958).
195. U.N. Gen. Ass. 4/4414 (June 1959).
196. The members were from countries of Czechoslovakia, Poland, Italy, and of Latin America and Russia.
197. U.N. Gen. Ass. Res. 1472 (XIV) (1959).
198. See Report of U.S. Activity, also in the United Nations for 1960, Dept. State Publ. 7354, 20-29 (1961).
199. U.N. Gen. Ass. Res. 1721 (XVI) (1961).

[illegible] principles which [illegible] set forth [illegible] declarations that international law, including the United Nations Charter applies in outer space; that space was free to all for exploration and use; provisions for states to furnish data for registering launched vehicles; and some discussion of [illegible] weather and communications satellites.

Although the United States has agreed to the Declaration regarding the registration of all launchings,[200] on June 8, 1963, in a letter to the Secretary-General, the United States called the attention to the fact that six space vehicles were launched by the Soviet Union but not reported for registration.[201]

In March of 1962 the Committee met with all members present, and created two sub-committees: one to resolve scientific and technical questions, and the other to decide legal questions. These sub-committees met in Geneva during the spring of that year, and their reports were then reviewed by the full committee.[202] Although

---

200. See [illegible] U.N. Doc. A/AC.105/INF.1 of [illegible] Dec. 1962, [illegible] to the Secretary-General, [illegible] "Those [illegible] qualifications and declarations [illegible] the records that [illegible] would have [illegible] ... Question relating to [illegible] outer space vehicles and orbits or routes as of 1 August 1962. . . ."

201. U.N. Doc. A/AC.105/L.1 (8 June 1963).

202. U.N. Doc. A/5181 (1962).

the Scientific Sub-Committee reached agreement on a number of topics, the Legal Sub-Committee could reach no agreement, but did submit a draft of legal matters which were considered to be ripe for early treaty.[60] These proposals dealt with liability for space vehicle accidents; assistance to and return of space vehicles and personnel; a code for international cooperation in uses of outer space; and several other general proposals, including reiteration of seven principles adopted in 1961 in resolution 1721.

A resolution was adopted on the 1962 session of the United Nations General Assembly on December 17,[61] which called for further action in many general areas dealt, in essence, boiled down to a resolution to the Committee to get back to it and attempt agreement on something.

In 1963, the United States and Russia agreed upon a program of cooperation in meteorology, magnetic survey and satellite communications,[62] but these programs, and rewards, will not be discussed here. It will be the purpose of this chapter to discuss only recent developments in the United Nations Committee dealing with damage and rescue of spacecraft and personnel.

---

60). Id., Annex III.
61). U.N. Gen. Ass. Res. 1802 (XVII) (1962).
62). U.N. Doc. A/C.1/PV.1280 (1963).

As a general observation, the annual meetings of the Legal Sub-Committee provide an opportunity that an international treaty cannot to reconsider developments in activity that space nations engage. However, a disagreement exists as to the priority to be given to discussing general principles before considering specific issues. The United States wanted to give precedence to discussion regarding damages,[206] whereas the Russians desired to begin with general debate culminating in adoption of a declaration of general principles.[207] A compromise was reached with the result being that no general agreement was reached on any subject.[208]

On December 13, 1963, a General Assembly resolution was unanimously adopted[209] which provided principles to guide nations in the exploration and use of outer space. The formal title of this resolution was "Declaration of Legal Principles Governing Activities of States in the Exploration and Use of Outer Space." Of some significance are Paragraphs 7 and 8. Paragraph 7 holds in part:

---

206. U.N. Doc. A/AC.105/C.2/SR.36-37, 30 Aug. 1962.
207. Id. at 1-2.
208. See note 206 supra.
209. U.N. Doc. A/C.1/L.335 (13 Dec. 1963).

> (d) Objects or component parts found beyond the limits of the State of registry shall be returned to that State. . . .

And Paragraph 8 reads in part:

> Each State which launches or procures the launching of an object into outer space . . . is internationally liable for damage to a foreign State or to its natural or juridical persons by such object or its component parts. . . .

This paragraph was conspicuously silent on the question of how fault would be established before recovery for damages could be realized.

In addition, the General Assembly also adopted unanimously in plenary session on December 19, another resolution[210] requesting the Committee to ". . . arrange for the prompt preparation of draft international agreements on liability for damage caused by objects launched into outer space and on assistance to and return of astronauts and space vehicles. . . ."[211]

By these resolutions, the General Assembly made it quite clear that it wanted, and expected, the Committee to formulate some agreements regarding damages and return of vehicles that caused or received loss in international

---

210. (Cf. Doc. A/Res/1962 (XVIII) (17 Dec. 1963).
211. Id., para. 2.

[illegible] treaty. However, it must be realized that such a declaration by the General Assembly lays down no legal obligations on the governments of member states.

In 1964, the Legal Sub-Committee held three sessions of varying lengths in an attempt to produce drafts for space law agreements. Although the third and final session was dedicated to the translation of concrete proposals to the General Assembly at its 19th Session,[212] it was successful only in presenting draft proposals regarding liability for damages[213] and assistance to and return of astronauts and spacecraft.[214] This is not to say that no progress has been made, but it is slow. Moreover, it would appear that long negative results will be obtained for both agreements in the near future. The potential yield of international cooperation in this area encourages a resounding answer of "Yes" to the question: Is all this laborious negotiating really worth it?

---

[212] See U.N. Doc. A/C.1/SR.1324/C 2/SR.38, 29 Nov. 1963.
[213] U.N. Doc. A/AC.105/C.2/W.1/Rev. 2, 20 Oct. 1964.
[214] U.N. Doc. A/AC.105/C.2/L.2/Rev. 1, 8 Oct. 1964 (1964); U.N. Doc. A/AC.105/C.2/L.2/Rev. 2 (1964).

CHAPTER VII

CONCLUSIONS

The foregoing has briefly explored the manner in which international law is developing, and this has developed in regard to the sea and the sky, and several ways in which the experience gained could be utilized in developing a legal regime for outer space.

Some have suggested a claim for that law already developed in airspace cases.[215] A claim has been made that there already exists a body of law for outer space.[216] Others adhere to the principle that it is much too early to enter into international conventions on this subject.[217] Still others urge a codification of space law to meet the needs of the present progress being made in the field of space sciences.[218] To plead for uniformity through the development of customary rules is impractical and much too retarded. The question, therefore, which seems to my mind it should be here a codification of law

---

215. Ward, supra note 1.

216. See Cooper, Outer Space Powers, Polaris and the Development of Law for Outer Space, Ala J., 4-7 (Fall 1963).

217. Williams, supra note 69.

218. Berger, supra Legal Liability for Space Death and Vehicle Accident 5 Int Bus Law Assoc. C., 201-17 (1961-62).

In these speculative considerations. Although it has been shown that certain general principles regarding law and the application of outer space have existed for ages, can we merely apply these general principles and consider the task completed? The only answer to this must be in the negative. I firmly believe that in space exploration, use, and eventual control, lay offers considerable hope. The lawyer has already been the technician in man's relationship to man, and this most continues if the result is going to be progress rather than accidence. Therefore, a declaration of law regarding outer space should be made, and made in such a manner that it will create a discerning practice of rules to abide:

> ... one of the most persistent problems in legal reasoning is the reduction of generalizations developed for the use of situations of seemingly similar fact to specifically very different patterns. . . .[1]

Although we have not spoken of the use of the sea or air as applied to the use of outer space, I believe the same language applies. We can not expect rule declarations to be exhaustive, to account for every conceivability regarding space activity, but we have now gained sufficient experience in this field to be able to make some binding conclusions.

---

[1] Sperry Gyroscope Co. v. Arma Engr. Co., 347 F.2d 800, 803 (1959).

In pursuing this subject, I have been reminded of a proverb which states that to begin a journey of a thousand miles one must take the first step. A giant step forward in a codification of space law would be an international accord concerning liability for damages caused by spacecraft and an international agreement on recovery and return of spacecraft and astronauts. This is not intended to imply that a beginning toward a declaration of law for outer space will be easy to compile, easy to accept, important to negotiate or immediately possible to enforce, but it would be a start. Bloomfield stated:

> Space technology is extraordinarily dynamic and proliferating at such a pace that unless some international rules are agreed upon, the consequences will be, at best, chaotic, at worst catastrophic.[220]

The world will not end if a declaration of law concerning outer space is not made today, but there would be a gradual tendency toward insurmountable positions unless we begin. In our negotiations regarding space activity regulation, let us continue to avoid agreement, and instead, to paraphrase Ambassador Stevenson,[221]

---

220. Bloomfield, Outer Space Prospects for Man and Society 169 (1962).

221. Statement by Ambassador Adlai E. Stevenson made in Committee I, United Nations, Dec. 4, 1961, 45 Dep't State Bull. 1279, 1055 (1961).

[illegible] only on the record that nobody was willing unconditionally to [illegible] to Congress's whim. To be more favorable [illegible] possession of such an agreement could prove to be rather embarrassing. Senator Hayden stated, as early as 1958, that:

> [I]n an informal discussion of this question, the people of our country favor the idea [illegible] agreements. In all probability this will be the practical result of indefinite endorsement of an idea and the policy toward regulating space behavior.[222]

Some recognized authorities in this field have become so concerned with the urgency of early and appropriate action concerning certain areas of spacecraft activity that they are recommending a federal policy pronouncement on the subject. Before implementation, by an article concerning liability for injuring persons [illegible] by space[illegible] . . . In the event international agreement cannot be attained, the United States at least should clearly fix position by enacting appropriate federal legislation for the protection of injured persons. . . .[223]

Dr. John Cobb Cooper cautioned about the question of sovereignty of the space above national boundaries in a

---

222. Speech of Hon. Carroll S. Redlich of New York before the 12th Annual Congress of the International Astronautical Federation, New York, 1958; reprinted in 1958 Congressional Rec.

223. Seeger, [illegible] note 219 at 306.

[illegible] Committee on Space [illegible] National Conference of the Federal Bar Association. Mr. Cooper urged the adoption of a declaration by international law [illegible] of the rights of any state passage [illegible]. In conclusion he stated:

> A declaration of this kind is desirable as an early goal. But what objective does not fulfill the urgency of the time? Until the nations of the United States [illegible] other limits of the continental air [illegible] the world of its assurance of unilateral sovereign control [illegible] whose point [illegible] national security [illegible] to accommodate on all fronts [illegible] airlines, whether they be [illegible] aircraft, spacecraft or any combination of these basic types.[20]

It has been suggested that there is a pressing need for international agreement concerning liability for damages and the recovery and return of astronauts and space vehicles. Another problem which by its very nature must necessarily become a part of the earliest negotiations on these two subjects is a resolution of a forum through which adjudication may be had of differences which may arise. As Isaacs has stated:

> [T]here can be no long rule of law in international or any other society unless

---

[20] 108 Cong. Rec. App. A3844 (daily ed. Oct. 1, 1962).

It is possible for a party to a dispute to get a court to determine what the law is in relation to that dispute.[14]

In order to be more specific in my suggestions, the main points of concern which must be included, I believe, in order to obtain a workable formula for these subjects are listed below. These lists are not exhaustive, but they do include the minimum requirements for an appropriate convention.

The items which must be included in a declaration concerning liability for damage caused by objects launched into outer space are:

1. Liability should be borne by the launching state based on liability without fault, requiring no proof of fault, negligence, carelessness or recklessness for a valid claim.

2. If damage occurred in part to a willful or reckless act of the claimant state, liability should be wholly or partially extinguished.

3. All claims of a state or its nationals or juridical persons of a state should be presented by a state.

4. International law, if not contrary to agreement between contracting parties or recognized law, should be the law used to determine causal connection between damage and launch and extent of liability.

5. Claims should be first pursued through diplomatic channels, or within one year from date of the alleged damage. If not settled within six months after the claim is presented, a commission (consisting of one party from each disputing country (claimant to one) and one

---

14. Jennings, The Progress of International Law 27 (1960).

[illegible] usage. Technical data may also be given upon request before return is necessary.

6. In the event that spacecraft personnel do not accompany craft by landing, these regulations remain applicable regarding assistance to and return of spacecraft and equipment to the launching state.

7. All disputes arising directly or indirectly from this convention should be determined and settled in the same manner as delineated in paragraph five (above) regarding liability for damages.

After the agreed drafting of the two conventions, they would be given wide and direct publicity by each signatory, as soon as the signing was, and the convention would remain open for signature. Ideally, every nation would sign such an agreement.

The proposals made are realistic and capable of agreement. In the case of arms expansion, I say more again -- there is a possibility of quantum regulation and [illegible] The United States launched forty objects into space,[206] during the first quarter of 1961, great advances in space exploration have been realized. The Russian "Vostok" [illegible] Colonel Glenn, accomplished the feat of landing and returning spacecraft and traveling in space for the first time.[207] It was announced

---

206. See generally U.S. Arms Control No. 47, 5 (1961).
207. [illegible] Vol. 39, [illegible] p. 2, [illegible] (City ed.).

that he traveled approximately 5,000 miles while out-side the space vehicle[227] at an altitude of 300 miles, higher than any previously manned space flight.[228] The United States launched its first manned flight of its two-man Gemini program with resounding success on March 23, 1965.[229] The year is already proving to be an historic one in the field of space activity. This should be reason enough for the international community to [illegible] with [illegible] rules to govern passage in a field in which [illegible] are bound to occur.

[illegible], in [illegible] to the possibilities of [illegible] east-west tension [illegible] that:

> [illegible] any of the cold war [illegible] war --
> [illegible] a war in the [illegible] age [illegible]
> fraught with [illegible] consequences for
> all nations -- [illegible][231]

an opinion such as this [illegible] of quick appraisal and decision, but after the decision is made the hard work must commence. Unless the great powers agree on a set of ground rules to govern space exploration, and remove it from earthly squabbles, man's venture into the infinite may well have a calamitous ending.

---

228. Newsweek, Mar. 29, 1965, p. 58, col. 3.
229. See note 227 supra [illegible]
230. N.Y. Times, Mar. 24, 1965, p. 1, col. 8 (city ed.).
231. [illegible], [illegible], 35 Foreign Affairs [illegible] (1957).

TABLE OF CASES AND STATUTES

Treaties